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10/759,346

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Peter Szpak

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EXAMINER

KE, PENG

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/759,346	Applicant(s) SZPAK ET AL.	
	Examiner SIMON KE	Art Unit 2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 33-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29, and 33-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to communications: Amendment, filed on 6/18/09.

Claims 1-29, and 33-61 are pending in this application. Claims 1, 19, 33, and 51 are independent claims. In the Amendment, filed on 6/18/09, claims 1, 19, 33, and 51 were amended.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-29, and 33-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayles US Patent 7,134,109 in view of Courant et al. ("Courant" US Patent No. 5,522,073) further in view of Makowski US Patent 6,880,130.

Regarding independent claim 1, Hayles A method for controlling model execution in a graphical modeling environment, said method comprising:

displaying a view of an executable graphical model with a plurality of executable time-based components, said executable graphical model including at least one user-configurable, executable graphical post component having at least one input port for receiving at least one input signal, (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20)

logically associating at least one executable time-based component with said event;
identifying when said condition is satisfied during execution of said executable graphical model; (see Hayles, col. 17, lines 25-col. 22, lines 20)

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posting, using said executable graphical post component, said event by informing an event handler said notice of an occurrence of said event in said graphical modeling environment; (see Hayles, col. 17, lines 25-col. 22, lines 20)

notifying said at least one executable time-based component that is logically associated with said event of said occurrence of said event, said occurrence of said event triggering an execution of said at least one executable time-based component; (see Hayles, col. 17, lines 25-col. 22, lines 20)and

executing said at least one executable time-based component in response to said notifying as opposed to in response to a specific point in time. (see Hayles, col. 17, lines 25-col. 22, lines 20)

However, Hayles does not explicitly teach said executable graphical post component being configured to post an event when a condition associated with said at least one input signal of said executable graphical post component is satisfied;

Courant teaches executable graphical post component being configured to post an event when a condition associated with said at least one input signal of said executable graphical post component is satisfied; (see Courant; col. 2, lines 20-50)

It would have been obvious to an artisan at the time of the invention to integrate the event manager of Courant into the graphical modeling environment of Hayles. Said artisan would have been motivated to combine Courant into Hayles to give the user greater flexibility to select specific functions related to the event (i.e. see col. 2 line 33 et seq. of Courant).

However, they fail to teach executing within said graphical modeling environment during a simulation of said executable graphical model.

Makowski teaches executing within said graphical modeling environment during a simulation of said executable graphical model. (see Makowski, col. 13, lines 25-40)

It would have been obvious to an artisan at the time of the invention to integrate the modeling environment of Makowski into the graphical modeling environment of Hayles. Said artisan would have been motivated to combine Makowski into Hayles to allow user to simulate the industrial environment.

Regarding dependent claim 2, Hayles, in combination with Courant and Makowski teaches the method of claim 1, comprising the further steps of: registering at least one of said plurality of components with said event handler; and receiving at the at least one of said plurality of components registering with said event handler, notification of the occurrence of said event following said posting (i.e. compare "MESSAGE CONNECTOR", "EVENT SERVER" and "EXECUTION MANAGER" in FIG. 5 et seq. of Courant).

Regarding dependent claim 3, Hayles, in combination with Courant and Makowski teaches the method of claim 1, wherein the graphical post component is a block or label (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 4, Hayles, in combination with Courant and Makowski teaches the method of claim 1, comprising the further step of: setting a sample time for the initial execution of at least one component to be the occurrence of the specified event (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 5, Hayles, in combination with Courant and Makowski teaches the method of claim 4, comprising the further step of: propagating the sample time to at least one other component in said model, said at least one other component configured to inherit a sample rate (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 6, Hayles, in combination with Courant and Makowski teaches the method of claim 4, comprising the further step of: setting a sample time of a plurality of non-contiguous components in said model to be the occurrence of said event (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 7, Hayles, in combination with Courant and Makowski teaches the method of claim 6 wherein said sample time for the plurality of non-contiguous components is set without adjusting visible connections between components displayed in said view (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 8, Hayles, in combination with Courant and Makowski teaches the method of claim 4, comprising the further step of: indicating with an event ID in said view that the sample time of said at least one component is set to said event (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 9, Hayles, in combination with Courant and Makowski teaches the method of claim 4 wherein said event is an explicit event set by a

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user (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 10, Hayles, in combination with Courant and Makowski teaches the method of claim 4 wherein said event is an implicit event caused by the execution of the model (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 11, Hayles, in combination with Courant and Makowski teaches the method of claim 10 wherein the implicit event is one of power-up, power-down and initialization (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 12, Hayles, in combination with Courant and Makowski teaches the method of claim 10 wherein the implicit event corresponds to one of the enabling and disabling of a subsystem (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 13, Hayles, in combination with Courant and Makowski teaches the method of claim 2, comprising the further step of: indicating which event a component receives with a user-configurable color in said view (see Hayles, col. 7, lines 3-20)

Regarding dependent claim 14, Hayles, in combination with Courant and Makowski teaches the method of claim 1, wherein an execution scope Of the specified event for which the execution of the model is being monitored is restricted to a portion of the model (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 15, Hayles, in combination with Courant and Makowski teaches the method of claim 1 wherein each event in said model maps on a one-to-one basis to an event handler, said event handler being a function (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 16, Hayles, in combination with Courant and Makowski teaches the method of claim 15 wherein said function is inlined (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 17, Hayles, in combination with Courant and Makowski teaches the method of claim 1 wherein a branch priority block indicates an order of execution among at least two branches of blocks in response to said notifying (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 18, Hayles, in combination with Courant and Makowski teaches the method of claim 1 wherein more than one block group executes in response to said notifying, said block groups being a user selected grouping of blocks, the order of execution of the block groups specified by a user (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding independent claim 19, it is rejected under the same rationale as claim 1. Supra and

Courant further teaches interrupting execution of an executing event in response to the determination of the occurrence of said specified event; and performing an operation in said model in response to the determination of the occurrence of the specified event (i.e. "EVENT SERVER" and "EXECUTION MANAGER" in FIG. 5 et seq. of Courant).

Regarding dependent claim 20, Hayles, in combination with Courant and Makowski teaches the method of claim 19 wherein said specified event is treated as a normal event and comprising the further step of: resuming execution of the interrupted event (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 21, Hayles, in combination with Courant and Makowski teaches the method of claim 19 wherein said specified event is treated as an exception event and comprising the further step of: returning control of the execution of the model to a calling process which called the interrupted executing event without resuming execution of said interrupted event (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 22, Hayles, in combination with Courant and Makowski teaches the method of claim 19 wherein said specified event is specified using an instantiated event object (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 23, Hayles, in combination with Courant and Makowski teaches the method of claim 22 wherein said event is an explicit event (see

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Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 24, Hayles, in combination with Courant and Makowski teaches the method of claim 22 wherein said event is an implicit event (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 25, Hayles, in combination with Courant and Makowski teaches the method of claim 22 wherein said event object is associated with a task object, said task object corresponding to an operating system task (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 26, Hayles, in combination with Courant and Makowski teaches the method of claim 25 wherein said task object has at least one of a specified execution rate and priority (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 27, Hayles, in combination with Courant and Makowski teaches the method of claim 26 wherein at least two events with different tasks are executing in a model and comprising the further step of: using event transition components to schedule the execution of components associated with said at least two events, said event transition components separating the execution of said components associated with said at least two events (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22,

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lines 20).

Regarding dependent claim 28, Hayles, in combination with Courant and Makowski teaches the method of claim 19 wherein the operation is controlled by an order of execution indicated in a branch priority block (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding dependent claim 29, Hayles, in combination with Courant and Makowski teaches the method of claim 19 wherein the operation is the execution of more than one block group, said block groups being a user selected grouping of blocks, the order of execution of the block groups specified by a user (see Hayles, fig. 8 and fig. 9 col. 17, lines 25-col. 22, lines 20).

Regarding independent claim 33, it is rejected under the same rationale as claim 1. Supra.

Claim 34 is similar in scope to claim 2, and is therefore rejected under similar rationale.

Claim 35 is similar in scope to claim 3, and is therefore rejected under similar rationale.

Claim 36 is similar in scope to claim 4, and is therefore rejected under similar rationale.

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Claim 37 is similar in scope to claim 5, and is therefore rejected under similar rationale.

Claim 38 is similar in scope to claim 6, and is therefore rejected under similar rationale.

Claim 39 is similar in scope to claim 7, and is therefore rejected under similar rationale.

Claim 40 is similar in scope to claim 8, and is therefore rejected under similar rationale.

Claim 41 is similar in scope to claim 9, and is therefore rejected under similar rationale.

Claim 42 is similar in scope to claim 10, and is therefore rejected under similar rationale.

Claim 43 is similar in scope to claim 11 and is therefore rejected under similar rationale.

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Claim 44 is similar in scope to claim 12, and is therefore rejected under similar rationale.

Claim 45 is similar in scope to claim 13, and is therefore rejected under similar rationale.

Claim 46 is similar In scope to claim 14, and is therefore rejected under similar rationale.

Claim 47 is similar in scope to claim 15, and is therefore rejected under similar rationale.

Claim 48 is similar in scope to claim 16, and is therefore rejected under similar rationale.

Claim 49 is similar in scope to claim 17, and is therefore rejected under similar rationale.

Claim 50 is similar in scope to claim 18, and is therefore rejected under similar rationale.

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Claim 51 is similar in scope to claim 19, and is therefore rejected under similar rationale.

Claim 52 is similar in scope to claim 20, and is therefore rejected under similar rationale.

Claim 53 is similar in scope to claim 21, and is therefore rejected under similar rationale.

Claim 54 is similar in scope to claim 22, and is therefore rejected under similar rationale.

Claim 55 is similar in scope to claim 23, and is therefore rejected under similar rationale.

Claim 56 is similar in scope to claim 24, and is therefore rejected under similar rationale.

Claim 57 is similar in scope to claim 25, and is therefore rejected under similar rationale.

Claim 58 is similar in scope to claim 26, and is therefore rejected under similar rationale.

Claim 59 is similar in scope to claim 27, and is therefore rejected under similar rationale.

Claim 60 is similar in scope to claim 28, and is therefore rejected under similar rationale.

Claim 61 is similar in scope to claim 29, and is therefore rejected under similar rationale.

Response to Arguments

Applicant's arguments with respect to claims 1-29, and 33-61 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SIMON KE whose telephone number is (571)272-4062. The examiner can normally be reached on M-Th and Alternate Fridays 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Chow can be reached on (571) 272-7767. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner, Art Unit 2174